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DEPARTEMENT VAN HANDEL EN NYWERHEID



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DEPARTMENT OF TRADE AND INDUSTRY

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The documents annexed hereto are true copies of:

Application forms P.1 and P.3, provisional specification and drawings of South African Patent Application No. 2002/5564 as originally filed in the Republic of South Africa on 11 July 2002 in the name of WIESE, ANTONIE HENDRIK JACOBUS for an invention entitled: "MOBILE TELEPHONES".

Geteken te Signed at PRETORIA in die Republiek van Suid-Afrika, hierdie in the Republic of South Africa, this

4th

dag van March 2003

Registrateur var Patente Registrar of Patents SPUBLIC OF SOUTH AFRICA ATENTS ACT, 1978 PPLICATION FOR A PATENT AND SKNOWLEDGEMENT OF RECEIPT ection 30(1) Regulation 22) FORM P.1 (to be lodged in duplic

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FULL NAME(S) OF APPLICANT(S)
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54	TITLE OF INVENTION									
	" MOBILE TELEPHONES "		•							
	Only the items marked with an "X" in the blocks below are applicable.									
	THE APPLICANT CLAIMS PRIORITY AS SET OUT ON T	THE ACCOMPANYI	NG FORM P.2. The							
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х	A single copy of a provisional specification of 17 pages	•	•							
х	Drawings of 5 sheets									
	Publication particulars and abstract (Form P.8 in duplicate) (for	or complete only)								
	A copy of Figure of the drawings (if any) for the abstract	(for complete only)								
х	An assignment of invention and priority rights									
	Certified priority document(s). (State quantity)		•							
	Translation of the priority document(s)									
	An assignment of priority rights									
	A copy of Form P.2 and the specification of RSA Patent App	lication No	21 01							
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x	A declaration and power of attorney on Form P.3									
	Request for ante-dating on Form P.4									
	Request for classification on Form P.9									
	Request for delay of acceptance on Form P.4									
	Extra copy of informal drawings (for complete only)									
74	ADDRESS FOR SERVICE: Adams & Adams, Pretoria]								

Dated this 11th day of July 2002

AV vR SCHWEIZER ADAMS & ADAMS APPLICANTS PATENT ATTORNEYS

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2002 -07- 11

REGISTRATOF PATENTS DESIGNS, TRADE MARKS AND COPYRIGHT

REGISTRATEUR VAN PATENTE, MODELL HANDELSMERKE SP SUTEUTSREG ADAMS & ADAMS
PRETORIA

REPUBLIC OF SOUTH AFRICA PATENTS ACT, 1978

ARATION AND POWER OF ATTORNEY

(Section 30 - Regulation 8, 22(i)(c) and 33)

21 01 \$2002/556 2 22 11 July 2002 FULL NAME(S) OF APPLICANT(S) 71 WIESE, Antonie Henrdik Jacobus FULL NAME(S) OF INVENTOR(S) 72 TAFUR CASTILLO, Alvaro, Bernardc ARLIEST PRIORITY CLAIMED COUNTRY NUMBER DATE 33 n/a 31 n/a 32 n/a	TILLUI FILLICITION TO	A Ref: V15300	0 AL/JAL/vd	LODGING I	DATE				
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" MOBILE TELEPHONES "	" MOBILE TELEPHON	NES "			·				
hereby declare that: 1. I/we-am/are the applicant(s) mentioned above; 2. I/we have been authorized by the applicant(s) to make this declaration and have knowledge of the facts he stated in the capacity of of the abovementioned invention is/are—the person(s) named above and the applicant(s) has acquired the right to apply by virtue of an assignment from the inventor(s); 4. to the best of my/our knowledge and belief, if a patent is granted on the application, there will be no large ground for the revocation of the patent; 5. this is a convention application and the earliest application from which priority is claimed as set out above first application in a convention country in respect of the invention claimed in any of the claims; and 6. the partners and qualified staff of the firm of ADAMS & ADAMS, patent attorneys, are authorised, jointly severally, with powers of substitution and revocation, to represent the applicant(s) in this application and the address for service of the applicant(s) while the application is pending and after a patent has been ground and the application. SIGNED THIS 11th DAY OF July 2002									
Company Name: Full Names: Antonie Hendrik Jacobus Wiese Capacity of Signatory: (no legalization necess In the case of application in the name of a company, partnership or firm, give full names of signatory/signatories, delete paragraph 1, and enter confidence of each signatory in paragraph 2. If the applicant is a natural person, delete paragraph 2. If the right to apply is not by virtue of an assignment from the inventor(s), delete an assignment from the inventor(s) and give details of acquisition of	Fall Names: Antonie Hendrik Capacity of Signatory: In the case of application in the name of a company of each signatory in paragraph 2. If the applicant is a natural person, delete paragraph	y, partnership or firm, gi	ive full names of signatory/	'signatories, delete					

For non-convention applications, delete paragraph 5.

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ADAMS & ADAMS PATENT ATTORNEYS PRETORIA

FORM P6

REPUBLIC OF SOUTH AFRICA Patents Act, 1978

PROVISIONAL SPECIFICATION

(Section 30 (1) - Regulation 27)

21 01 OFFICIAL APPLICATION NO

22 LODGING DATE

£2002/5564

11 July 2002

71 FULL NAME(S) OF APPLICANT(S)

WIESE, Antonie Hendrik Jacobus

72 | FULL NAME(S) OF INVENTOR(S)

TAFUR CASTILLO, Alvaro Bernardo

54 TITLE OF INVENTION

" MOBILE TELEPHONES "

THIS INVENTION relates to mobile telephones. In particular, the invention relates to a mobile telephone kit for installation in a vehicle, and to a vehicle which includes the mobile telephone kit. The invention extends to a security system for installation in a building or a vehicle, and to a mobile telephone control unit for forming part of the security system.

The invention provides a security system for protection of a particular area, such as a building or a vehicle, which system includes:

an alarm arrangement for detecting unauthorised tampering with or unauthorised entry into the building or vehicle, and for automatically generating an alarm signal in response to detection of such unauthorised tampering; and

a mobile telephone device in connection with the alarm arrangement, the mobile telephone device being operable between an alarm condition in which the telephone device is arranged automatically to connect telephonically to a mobile telephone network in response to receiving an alarm signal from the alarm arrangement, and a telephone condition, in which the mobile telephone device is operable to connect a user to the mobile telephone network,

the mobile telephone device having a security subscriber identification module for use in connection to the mobile telephone network when the telephone device is in the alarm condition and a user subscriber identification module for use in connection to the mobile telephone network, when the telephone device is in its telephone condition.

Typically, each subscriber identification module enables a provider of the mobile telephone network to identify a particular account to which any telephone call made *via* the network by use of the identification module is to be charged, the user subscriber identification module and the security subscriber identification module being for identifying different accounts. Each subscriber identification module may include a computer readable memory device, preferably comprising electronic circuitry, the memory device having information stored thereon for permitting identification of the associated account. Conveniently, each identification module may be a conventional SIM-card.

The user SIM-card may be a so-called twin-call SIM-card, which means that it is one of a pair of SIM-cards, both of which identify the same account. Usually, such twin-call SIM-cards are used to enable a user to charge the same account for calls made from a mobile phone carried by the user and calls made from a telephone kit installed in the user's vehicle, one of the twin-call SIM-cards being located in the vehicle telephone kit, and the other twin-call SIM-card being located in the user's mobile telephone. In usual operation, the user can select which of the twin-call SIM-cards to use, depending on the user's location. It is, however, a disadvantage of such a conventional system that the twin-call SIM-card in the vehicle cannot connect telephonically, *via* the network, to the twin-call SIM-card in the user's mobile telephone.

In accordance with the invention, the user SIM-card and the security SIM-card may both be located in the mobile telephone device in the form of a

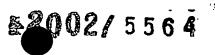
mobile telephone control unit for installation in the vehicle or building, the telephone unit including a conventional GSM module and a switch for, in use, switching between connection of the GSM module to the user SIM-card and connection of the GSM module to the security SIM-card.

The security system may be a vehicle security system for installation in a vehicle, and the switch may be arranged automatically to switch the mobile telephone device to the security SIM-card in response to switching off of the vehicle, and automatically to switch the mobile telephone device to the user SIM-card in response to ignition of the vehicle.

The mobile telephone device may thus be in the form of a mobile telephone control unit which forms part of telephone kit for installation in a motor vehicle.

The mobile telephone device may be arranged automatically to send an alarm message to the user's mobile telephone, using the security SIM-card, in response to the generation of an alarm signal. It should be appreciated that the user's mobile phone will typically operate with a twin-call SIM-card identifying the same account as the user SIM-card in the telephone device. The alarm message may be a text message, such as an SMS-message, or it may be a voice call.

The security system may include a tracking device, such as a satellite tracking device or a global positioning unit, in connection with the mobile telephone



kit to provide a position signal thereto, the alarm message including information representative of the position of the vehicle.

The mobile telephone kit in the vehicle may be substantially hidden from view. By "hidden from view" is meant that, when a person is seated in a driver's seat of the vehicle, no major component of the mobile telephone kit, such as a key-pad, is visible to the naked eye. The mobile telephone kit may thus have no permanently installed keypad, or the keypad may be operable between a hidden condition in which the keypad is hidden from view, and an operative position, in which the key pad is visible and is readily accessible to a driver of the vehicle.

The telephone kit may, however, include a disconnectably connectable headset comprising a microphone-and-speaker system. Instead, or in addition, the mobile telephone kit may include a speaker in the form of an ear-piece for location in an ear of a driver of the vehicle, the ear-piece being permanently installed in the vehicle.

Thus, the mobile telephone kit may have no permanently installed manually operable input device, such as a key-pad, for providing a dial-up facility to the user. The mobile telephone kit may, however, have a dial-up system for permitting a user to control the the telephone control unit by use of a conventional mobile telephone, and to connect the mobile telephone kit to the telephone network. The dial-up system may comprise a device for receiving audio signals from a conventional mobile telephone, the audio signals being generated in

response to the pressing of keys on a keypad of the mobile telephone, and for converting the audio signals to electronic command signals for the mobile telephone kit, in accordance with, for instance, standard protocols such as DTMF.

The telephone kit may include cordless keypad for interfacing with a control unit of the telephone kit *via* wireless communication signals, such as infrared communication signals.

The mobile telephone kit may include a user operable connection switch for connecting the telephone kit to the network, for instance, for answering a call received *via* the network, or for disconnecting from the network, the connection switch being hidden from view.

The security system may be a residential security system for installation in a residence or other building, and the security system may include a portable remote control panic device for producing a wireless alarm signal when activated by a user.

The invention also provides a mobile telephone kit for forming part of a security system, as described above.

The invention further provides a mobile telephone device, or control unit, for a mobile telephone kit as described above, the control unit including:

a connection socket for receiving a security subscriber identification module;

a connection socket for receiving a user subscriber identification module;
a mobile telephone module, such as a GSM module, for connection with a

mobile telephone network through one of the subscriber identification modules; and

a switch for switching between connection of the telephone module to the security subscriber identification module, and connection of the telephone module to the user subscriber identification module.

The invention extends to a mobile telephone kit for installation in a vehicle such that the telephone kit is substantially hidden from view, as described above.

The invention further extends to a vehicle which includes the security system, or the mobile telephone kit, as described above.

The invention will now be further described, by way of example, with reference to the accompanying diagrammatic drawings, in which;

Figure 1 shows, schematically, part of a mobile telephone kit installed in a vehicle, in accordance with the invention, the mobile telephone kit being for cooperation with an alarm arrangement installed in the vehicle to form a security system, also in accordance with the invention;

Figure 2 shows, schematically, a further part of the telephone kit and the security system of Figure 1;

Figure 3 is a schematic block diagram of the security system of Figures 1 and 2;

Figure 4 shows, schematically, a security system installed in a building, in accordance with the invention; and

Figure 5 shows a schematic block diagram of a further embodiment of a security system installed in a vehicle in accordance with the invention.

In Figures 1 to 3 of the drawings, reference numeral 10 generally indicates a security system in accordance with the invention, the security system 10 being installed in a motor vehicle (not shown). The security system 10 includes an alarm arrangement 12 (shown in Figure 2) for detecting unauthorised tampering with or unauthorised entry into the vehicle.

In conventional fashion, the alarm arrangement 12 has an alarm control unit 14 which is connected by electrical relays to a series of detectors for measuring a plurality of parameters which may indicate potential tampering with the vehicle. In this example, the detectors include: vehicle door indicators 15 for detecting the status of the doors of the vehicle; an ignition detector 16 for detecting activation of ignition while the alarm arrangement 12 is armed; a motion detector 17 for detecting motion in a cabin of the vehicle while the alarm arrangement 12 is armed; a low battery detector 18 for detecting when the voltage of the vehicle's main battery 19 is below a predetermined level; and a motion detector 20 for detecting movement of the vehicle relative to the ground, while the alarm is armed.

The alarm control unit 14 is also, in conventional fashion, connected

by suitable relays to response units for automatically responding to detection of tampering with the vehicle, *inter alia* to immobilize the vehicle, the response units including fuel pump cut-offs 21, ignition cut-offs 22, indicator light flashers 23, and an alarm siren 13. The alarm control unit 14 is powered by the battery 19 of the vehicle, and is grounded, at 24.

The system 10 also includes a remote control unit 125 for locking the vehicle, at 25, or unlocking the vehicle, at 26, as well as for arming the alarm, at 27, or disarming the alarm, at 28. The remote control unit 125 is controlled by a portable remote control 29, which communicates with the remote control unit 125 via a wireless infra-red signal, in conventional fashion.

The security system 10 includes a mobile telephone kit 30 (shown in Figures 1 and 3) which operates on the GSM-standard, the mobile telephone kit 30 being permanently installed in the vehicle. The telephone kit 30 includes a mobile telephone device in the form of a mobile telephone control unit 31 which is connected, via a master data bus 32 to the alarm unit 14. In use, when tampering with the vehicle is detected by the alarm arrangement 12, an alarm signal is sent from the alarm control unit 14 to the telephone unit 31, via data bus 32.

The telephone unit 31 houses a GSM-module 33 for controlling connection to a GSM-network (not shown), the module 33 being connected to an antenna 34 which is mounted on the vehicle. The telephone unit 31 also provides two SIM-card sockets 36, 38 for removably receiving GSM subscriber identification

modules in the form of conventional SIM-cards. A user SIM-card 37 is located in SIM-card socket 36, and a security SIM-card 39 is located in SIM-card socket 38.

The user SIM-card 37 is a so called "twin-call" SIM-card, which means that it is one of a pair of SIM-cards which identify the same subscriber account when a call is made *via* a GSM network provided by an associated mobile telephone network provider (not shown). The other twin-call SIM-card (not shown) of the pair of twin-call SIM-cards is located in a mobile telephone (not shown) which is carried on the person of a user (not shown) of the vehicle.

The security SIM-card,39 is associated with a subscriber account different from the subscriber account with which the twin-call SIM-cards are associated.

The telephone unit 31 includes a switch 40 for switching connection of the GSM module 33 between the user SIM-card 37 and the security SIM-card 39. In this example, the switch 40 is arranged automatically to connect the GSM module 33 to the twin-call SIM-card 37 when the ignition of the vehicle is switched on or when the alarm is disarmed, and automatically to connect the security SIM-card 39 to the GSM module 34 in response to switching off of the ignition of the vehicle or arming of the alarm. The telephone unit 31 provides an indicating arrangement for indicating which of the SIM-cards 37, 39 is connected to the GSM module 33, in this case being a pair of indicating lights 35. Thus, the

telephone unit 31 is operable between a telephone condition, wherein the GSM module 33 is in connection with the user SIM-card 37, and a security condition, in which the GSM module 33 is in connection with the security SIM-card 39.

The telephone unit 31 is connected to an auxiliary power supply in the form of a 12V back-up battery 41, for powering the telephone unit 31 and the alarm control unit 14 in the case of failure of the main battery 19.

The telephone kit 30 includes a hands-free microphone 42 and a speaker 44 for permitting a user to use the telephone kit 30 in a hands-free manner, when the user is seated in the vehicle, the microphone 42 and speaker 44 being connected to the telephone unit 31 *via* bi-directional amplifier 46. The microphone 42 and amplifier 44 is integrated into the dashboard or console (not shown) of the vehicle, so that it is substantially hidden from view. Naturally, the speaker 44 may be provided by an existing conventional speaker system connected to a radio system installed in the vehicle. The kit 30 additionally provides a socket 43 for connection of the amplifier 46 to a conventional hands-free headset 45. In the usual manner, a vehicle radio mute relay 54 is provided for automatically muting the radio system of the vehicle when the telephone kit 30 is in operation.

Although not illustrated, the kit 30 can include a private or personal speaker housed in an ear-piece which is shaped and dimensioned for insertion into an ear of a driver of the vehicle. This ear-piece is permanently installed in the vehicle, to form a permanent part of the kit 30. The kit 30 will then include a user

operable control for switching between a general mode in which the vehicle radio speakers are used for sound production, and a personal or private mode in which the radio speakers are muted, and the audio of the telephone kit 30 is produced exclusively through the ear-piece.

The telephone kit 30 is also provided with a connection switch in the form of a push button 48, which provides a answer/hang-up function, for permitting the user to connect the GSM module 33 to the network in response to the reception of a telephone call *via* the network, and to disconnect from the network to end the call. This button 48 is hidden from view, in this case being located behind a steering column (not shown) of the vehicle.

A conventional key-pad 50 is connected to the telephone unit 31, for providing control over the telephone kit 30 and permitting dial-up by the user. However, it should be appreciated that this permanently installed key-pad 50 is optional, and if it is desired that the telephone kit 50 should be substantially hidden from view, this key-pad 50 will be omitted. To permit control of the telephone unit 31, and to provide a dial-up facility, when the key-pad 50 is omitted, the telephone kit 30 includes a DTMF tone decoder 52, for decoding audio signals generated by a conventional mobile telephone in response to pressing of the keys of the mobile phone. The decoder 52 decodes these audio signals and converts them into command signals for controlling the telephone unit 31. A cradle (not shown) may be provided for holding the mobile telephone, the cradle being located adjacent the microphone 42, so that a user can, in use, place the mobile telephone in the cradle

and press the desired keys on the mobile telephone, the microphone 42 relaying the audio signals to the decoder 52. The kit 30 thus enables a conventional mobile telephone to serve as a removable key-pad for the telephone kit 30.

Although not shown in the drawings, the kit 30 can be configured to have a cordless or wireless key-pad which communicates with the control unit 31 via wireless infra-red signals, in a manner similar to the operation of remote control devices. This cordless key-pad could be hidden from view when not in use, for instance being located in a cubby hole of the vehicle, or being located in a recess in the dashboard, the recess being openably closed by a closure member in the form of a hingedly displaceable flap.

The user-operable peripherals of the telephone kit 30, such as the microphone 42, speaker 44, key-pad 50, and connection switch 48 are connected to the telephone unit *via* a telephone unit interface 56.

The telephone unit 31 is also in connection with an electronic processor in the form of a central processing unit (CPU) 58 of the vehicle, the CPU being provided, in conventional fashion, with sufficient random access memory (RAM) 60 and an audio module 62. The CPU 58 is programmed to govern the functioning of the alarm arrangement 12, which is also connected to the CPU 58, and the telephone kit 30.

In use, the telephone kit 30 functions in a manner similar to a

conventional vehicle telephone system when the user is located in the vehicle. The GSM module 33 can connect to the GSM network through the user SIM card 37, as the other twin call SIM-card in the user's mobile telephone will not be in use. However, when the vehicle is switched off and the alarm arrangement 12 is armed, the switch 40 automatically switches the GSM module 33 into connection with the security SIM-card 39. In the event of an alarm signal being generated by the alarm arrangement 12, the telephone kit 30 automatically connects to the GSM-network, through the security SIM-card 39, and sends an SMS message to the user's mobile telephone, which operates with the twin-call SIM-card identical to the user SIM-card 37. The SMS message contains an alarm message notifying the user of the detection of unauthorised tampering with the vehicle. The sending of this SMS message is in addition to the usual responses to tripping of the alarm, such as wailing of the siren, flashing of the vehicle's indicators, and immobilisation of the vehicle.

The control unit 31 has a user operable mode switch 98 for switching the control unit 31 between a house mode, in which the unit 31 can form part of a security system for a building such as a house, and a vehicle mode, in which the unit 31 is configured to form part of a vehicle security system, as described with reference to Figures 1 to 3.

In Figure 4 of the drawings, reference numeral 70 generally indicates a further embodiment of a security system in accordance with the invention, the security system 70 being for protection of a building, in this case a house (not

shown). Unless otherwise indicated, like reference numerals indicate like parts in Figures 1 to 3 and Figure 4.

The system 70 includes a house alarm system 12 which includes an alarm control unit 14 which is connected to a telephone control unit 31 identical to the telephone control unit 31 described with reference to Figures 1 to 3. The alarm control unit 14 is powered by a mains power supply 72, although it is also connected to an auxiliary power supply in the form of a 12V battery of electrochemical cells. The control unit 14 is also in connection with a gate opener 74, auxiliary sensors 76 for sensing violation of a perimeter of the house, a light switch 78 for controlling outdoor lights (not shown) of the house, and an alarm siren 80. Provision is also made for arming, at 82, the alarm arrangement 12, and for disarming, at 84, the alarm arrangement 12.

The alarm arrangement 12 includes a portable remote transmitter 86 which includes a panic button 88, the transmitter 86 being arranged to transmit a wireless panic signal in response to pressing of the panic button 88. A receiver 90 is responsive to the panic signal to activate the alarm unit 14 for generation of an alarm signal.

The telephone unit 31 is connected to a wall-mounted interface unit 92 which incorporates a microphone 42, speaker 44, and key-pad 50.

In use, the system 70 functions as a telephone, permitting an

occupant of the house to make and receive telephone calls *via* the GSM network, the wall-mounted interface unit 92 providing a hands-free interface facility. As before, such conventional telephone calls are routed through the user SIM-card 37, which is a twin call SIM-card.

However, when the alarm is triggered, the telephone unit 31 automatically makes a call to the user's mobile phone, using the security SIM-card. The system 70 can be configured additionally to make calls to appropriate emergency response units. A user can carry the remote transmitter 86 on the user's person, so that, in the event of the user being surprised by an intruder, or in the case of an emergency, the user can press the panic button 88 to trigger the alarm and cause transmission of the alarm message by the control unit 31.

Figure 5 shows a further embodiment of a vehicle security system 10 as described with reference to Figures 1 to 3, like reference numerals again indicating like parts. The system 10 includes a tracking system 94 comprising a global positioning system (GPS) antenna 96 and a GPS unit 98, the GPS unit 98 being connected to the CPU 58 of the vehicle.

In use, the tracking system 94 continuously tracks the position of the vehicle. When the alarm arrangement 12 generates an alarm signal, and an alarm message is sent to the user *via* the GSM network, the position of the vehicle is noted and the alarm message includes information about the location of the vehicle, preferably providing GPS co-ordinates of the vehicle's location.

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It is an advantage of a security system as described with reference to the drawings, that it provides for emergency notification of a user on the mobile telephone of the user. This is not the case with conventional security systems of this kind, as the twin-call SIM-card in a conventional vehicle telephone system is usually identical to the twin-call SIM-card in the user's mobile telephone.

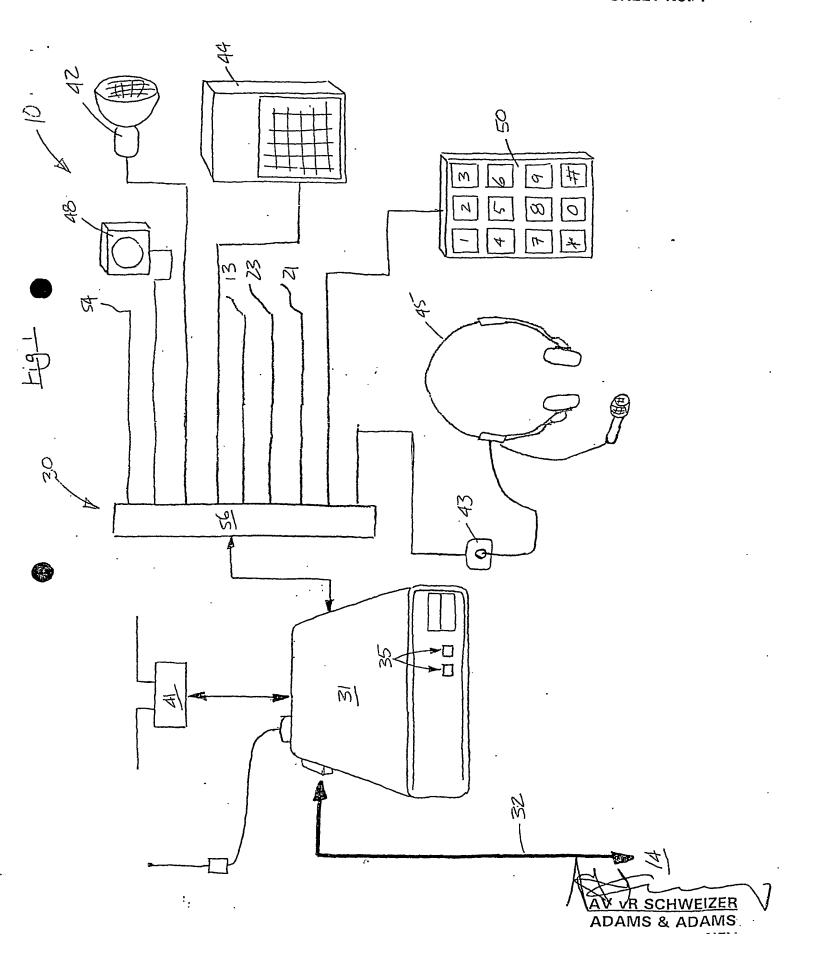
It is also an advantage of the vehicle security system of Figures 1 to 3 that the system is substantially obscured or hidden from view, so that it is not possible for a potential burglar to establish whether or not a particular vehicle is fitted with the security system by peering through windows of the vehicle. Furthermore, the telephone unit 31 can be used in a variety of applications, and can be sold as a unit for do-it-yourself retro-fit installation.

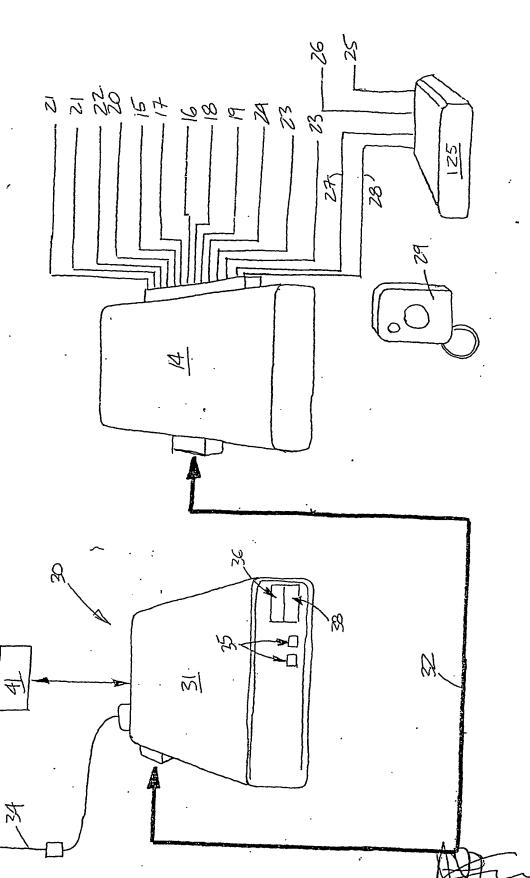
The Applicant envisages that the control unit 31 can be used in other applications which are not related to security, such as a monitoring application in which the telephone control unit 31 is configured automatically to alert a user by means of a SMS-message when, for instance, predetermined values of performance variables of machinery located at a remote location are not met.

Dated this 11th day of JULY 2002.

ADAMS & ADAMS
APPLICANT'S PATENT ATTORNEY

FIVE SHEETS : SHEET No. 1



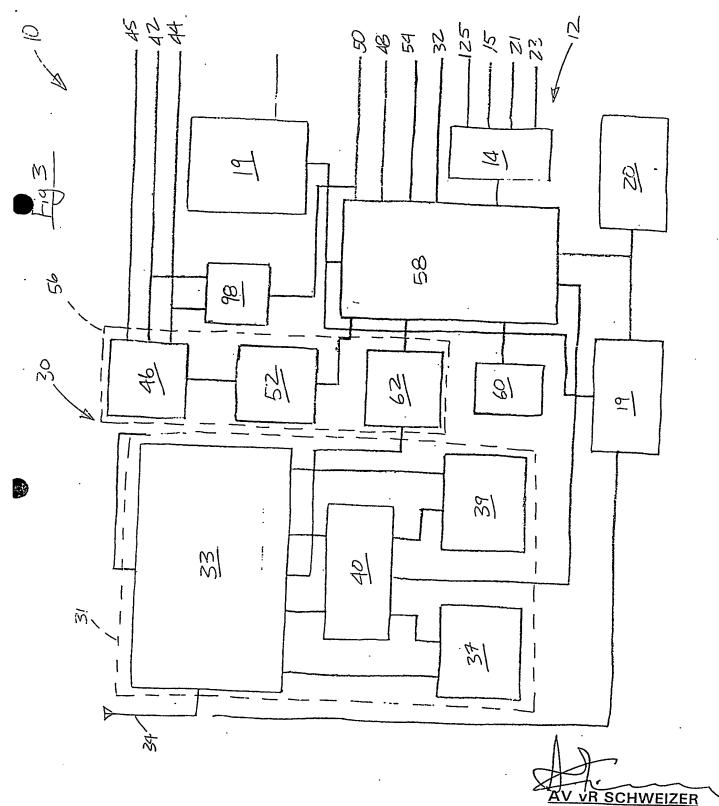


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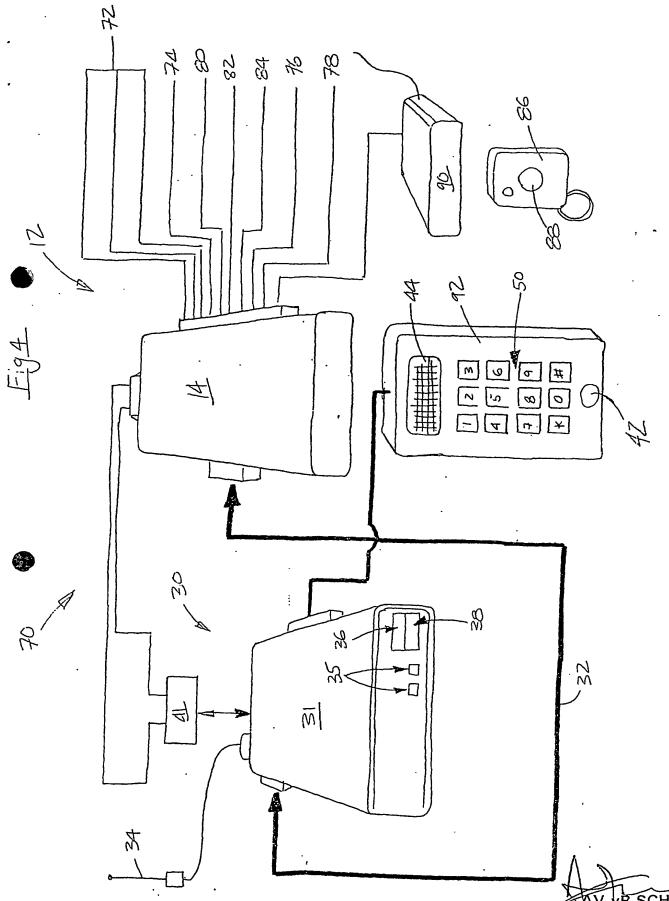
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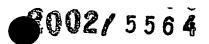
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ADAMS & ADAMS APPLICANT'S PATENT ATTORNEY



AV VR SCHWEIZER ADAMS & ADAMS WIESE, Antonie Hendrik Jacobus



FIVE SHEETS SHEET No. 5

